

What is claimed is:

1. An apparatus for deploying and recovering a towed line array from a vehicle, comprising:

a cylindrical drum located inside the vehicle upon which to spool the towed line array;

a motor joined to rotate said cylindrical drum;

a means for guiding and retaining the towed line array in a slidable manner as the towed line array is wound onto said cylindrical drum; and

a reverse thruster joined at an end of the towed line array outside the vehicle, said reverse thruster capable of propelling itself away from the vehicle.

2. An apparatus according to claim 1 wherein said motor comprises an electric motor.

3. An apparatus according to claim 2 wherein said electric motor further comprises a commutator assembly.

4. An apparatus according to claim 2 wherein said means for guiding and retaining the towed line array comprises an electro-mechanical

winding guide whose movement is synchronized with that of the cylindrical drum.

5. An apparatus according to claim 4 wherein said means for guiding and retaining the towed line array further comprises a tube external to the vehicle through which said towed line array is guided.

6. An apparatus according to claim 4 wherein said means for guiding and retaining the towed line array further comprises a plurality of stationary winding guides internal to the vehicle through which said towed line array is guided.

7. An apparatus according to claim 4 wherein said means for guiding and retaining the towed line array further comprises a tension sensor capable of measuring the tension of said towed line array and joined to said motor such that said tension sensor automatically adjusts power to said motor that turns said cylindrical drum to maintain a constant tension on said towed line array during deployment.

8. An apparatus according to claim 1 wherein said reverse thruster further comprises:

a housing joined to the end of the towed line array having a water inlet port and a water exit port formed therein;

a paddle wheel positioned in said housing;

an electric motor in said housing joined to said paddle wheel to generate thrust.

9. An apparatus according to claim 8 wherein said reverse thruster further comprises:

a buoyant section within said housing; and

a counterweight in said housing to correct for rolling.

10. An apparatus according to claim 9 wherein said reverse thruster further comprises a depth sensor joined to a control system of the vehicle.